

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-25 (canceled).

Claim 26 (currently amended): A method for the three-dimensional measurement of objects in which a measuring element (14; 52) is moved in space relative to an object to be measured, in particular along its surface, the locations of the measuring element (14; 52) are determined relative to a reference system, in particular relative to a fixed reference system, and the dimensions of the object (24; 56) examined are determined from the detected locations of the measuring element (14; 52), characterized in that wherein

the locations of the measuring element (14; 52) are determined by a locating method with reference to a reference system fixed by the associated locating system (16) and ~~desired~~ the dimensions of the object (24; 56) are calculated from the locations of the measuring element (14; 52) determined in this manner, and wherein

a plurality of physical fields comprising an acoustic, optical or electromagnetic field are set up for the location of the measuring element.

Claim 27 (canceled).

Claim 28 (currently amended): A method in accordance with claim 26, characterized in that a ~~unidirectional locating system (16), in particular in the manner of the so-called~~ global positioning system, GPS, is used for the locating of the measuring element (14; 52).

Claim 29 (currently amended): A method in accordance with claim 26, characterized in that the measuring element (14; 52) scans the object (24; 56) mechanically or in a contact-free manner.

Claim 30 (currently amended): A method in accordance with claim 26, characterized in that the measuring element (14; 52) is moved by [[the]] a robot arm (26).

Claim 31 (currently amended): ~~A method in accordance with claim 26;~~

A method for the three-dimensional measurement of objects in which a measuring element is moved in space relative to an object to be measured, in particular along its surface, the locations of the measuring element are determined relative to a reference system, in particular relative to a fixed reference system, and the dimensions of the object examined are determined from the detected locations of the measuring element, wherein

the locations of the measuring element are determined by a locating method with reference to a reference system fixed by the associated locating system and desired dimensions of the object are calculated from the locations of the measuring element determined in this manner,

~~characterized in that the~~ and wherein a robot arm (26) is simultaneously used for the movement of the object, in particular for the loading and/or unloading of the measuring apparatus.

Claim 32 (currently amended): ~~A method in accordance with claim 26;~~

A method for the three-dimensional measurement of objects in which a measuring element is moved in space relative to an object to be measured, in particular along its surface, the locations of the measuring element are determined relative to a reference system, in particular relative to a fixed reference system, and the dimensions of the object examined are determined from the detected locations of the measuring element, wherein

the locations of the measuring element are determined by a locating method with reference to a reference system fixed by the associated locating system and desired dimensions of the object are calculated from the locations of the measuring element determined in this manner,

~~characterized in that~~ and wherein the measuring element (14; 52) is moved by a flying object (50).

Claim 33 (currently amended): A method in accordance with claim 26, characterized in that at least one exchangeable measuring element (14; 52) is used.

Claim 34 (currently amended): A method in accordance with claim 26, characterized in that the locating system (16) is calibrated by self-calibration.

Claim 35 (currently amended): A method in accordance with claim 26, characterized in that the measuring element (14; 52) is supplied with energy in a wireless manner, in particular inductively or by means of an accumulator.

Claim 36 (currently amended): A method in accordance with claim 26, characterized in that the measurement data of the measuring element (14; 52) are transmitted in a wireless manner, in particular inductively or by radio.

Claim 37 (currently amended): An apparatus in accordance with claim 26 characterized in that the object (24; 56) is positioned at a zero position for the measurement.

Claim 38 (canceled).

Claim 39 (currently amended): An apparatus for the three-dimensional measurement of objects comprising

a measured element (14; 52) movable in space relative to an object to be measured, in particular along its surface;

means for the determination of the location of the measuring element (14; 52) at the measuring positions relative to a reference system, in particular relative to a fixed reference system, and means for the determination of the dimensions of the object (24; 56) from the detected locations of the measuring element (14; 52), ~~characterized in that~~ wherein

a locating system (16) is provided for the determination of the location of the measuring element (14; 52) with reference to the reference system fixed by the locating system (16) and in that means (18) are provided for the calculation of object dimensions from the locations determined in this manner, and wherein the locating system has a plurality of means for

the setting up of a physical field, in particular of an acoustic, optical and/or and electromagnetic field.

Claim 40 (canceled).

Claim 41 (currently amended): An apparatus in accordance with claim 39, characterized in that the locating system (16) is made as a ~~unidirectional locating system (16)~~, in ~~particular in the manner of the so-called~~ global positioning system, GPS.

Claim 42 (currently amended): An apparatus in accordance with claim 39, characterized in that the measuring element (14; 52) is made as a mechanical or contact-free scanning element.

Claim 43 (currently amended): An apparatus in accordance with claim 39, characterized in that the measuring element (14; 52) is arranged at a robot arm (26).

Claim 44 (currently amended): ~~An apparatus in accordance with claim 43,~~
An apparatus for the three-dimensional measurement of objects comprising
a measured element movable in space relative to an object to be measured, in
particular along its surface;

means for the determination of the location of the measuring element at the
measuring positions relative to a reference system, in particular relative to a fixed reference
system, and means for the determination of the dimensions of the object from the detected
locations of the measuring element, wherein

a locating system is provided for the determination of the location of the
measuring element with reference to the reference system fixed by the locating system and in
that means are provided for the calculation of object dimensions from the locations determined in
this manner, the measuring element being arranged at a robot arm,

~~characterized in that~~ and wherein the robot arm (26) has a gripping element (30)
for the gripping of the measuring element (14; 52) and/or of the object (24; 56) and is made to

move the measuring element (14; 52) between pick-up and put-down positions and the measuring position.

Claim 45 (currently amended): ~~An apparatus in accordance with claim 39,~~
An apparatus for the three-dimensional measurement of objects comprising
a measured element movable in space relative to an object to be measured, in
particular along its surface;
means for the determination of the location of the measuring element at the
measuring positions relative to a reference system, in particular relative to a fixed reference
system, and means for the determination of the dimensions of the object from the detected
locations of the measuring element, wherein
a locating system is provided for the determination of the location of the
measuring element with reference to the reference system fixed by the locating system and in
that means are provided for the calculation of object dimensions from the locations determined in
this manner,
~~characterized in that~~ and wherein the measuring element (14; 52) is arranged at a
flying object (50).

Claim 46 (currently amended): An apparatus in accordance with claim 39,
characterized in that the measuring element (14; 52) is exchangeable.

Claim 47 (previously presented): An apparatus in accordance with claim 39,
characterized in that means are provided for the self-calibration of the locating system.

Claim 48 (currently amended): An apparatus in accordance with claim 39,
characterized in that means (28) are provided for the wireless energy supply of the measuring
element (14; 52), in particular means for the inductive energy supply or an accumulator.

Claim 49 (previously presented): An apparatus in accordance with claim 39,
characterized in that means are provided for the wireless transmission of the measured data, in
particular means for inductive transmission or for transmission by radio.

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PATENT

Amendment

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Claim 50 (currently amended): An apparatus in accordance with claim 39, characterized in that a zero position is provided for the object (~~24; 56~~) to be measured.